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Venereal Aspects of Gastroenterology

These discussions are selected from the weekly staff conferences in the Department of Medicine, University of California, San Francisco. Taken from transcriptions, they are prepared by Drs. David W. Martin, Jr., Associate Professor of Medicine, and James L. Naughton, Assistant Professor of Medicine, under the direction of Dr. Lloyd H. Smith, Jr., Professor of Medicine and Chairman of the Department of Medicine. Requests for reprints should be sent to the Department of Medicine, University of California, San Francisco, CA 94143.

DR. SMITH:* *We have asked Dr. Robert Owen from the gastroenterology division at San Francisco Veterans Administration Medical Center to discuss some aspects of venereal gastroenterology, which are seen frequently here at the University of California and in many other clinics in San Francisco. He will be joined by two prominent people from San Francisco with wide experience in this area: Dr. Selma Dritz, who is medical epidemiologist with the San Francisco Public Health Department, and Dr. Charles Wibbelsman, who is chief of the Division of Venereal Disease Control in San Francisco.† Dr. Owen will begin with an overview of the topic of venereal gastroenterology.*

DR. OWEN:‡ In this conference we will discuss several venereal aspects of gastroenterology, concentrating on sexual transmission of enteric diseases and intestinal presentation of venereal diseases. There are always problems for both patients and physicians dealing with human sexuality. It is not an easy subject for either group, but it is critical that sexual problems be dealt with in a straightforward manner if we are to be effective. Patients always want one to think well of them and they will not tell an interviewer what they think he or she does not want to hear. Consequently in most cases one only obtains as much history as one is prepared to accept. It is important, therefore, when taking a history to understand the full range of the problem to be encountered so as to ask appropriate questions. Sometimes physicians are afraid to offend patients by asking questions that imply conduct that could be considered unacceptable or that may not be relevant. Today, we are trying to present sufficient background so that one will be familiar with the appropriate questions. Neither a patient nor medicine is well served when significant diagnoses are missed because the diagnoses were not considered.

Venereal Transmission of Enteric Disease

All orifices of the body are highly endowed with nerve endings. Evolutionarily this has proven useful; it is necessary to know if a bug is crawling in one's ear or nostrils, and to ascertain whether one is passing gas, liquid or solid material through

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the anal sphincter. The human body is often used in ways scarcely predictable from our evolutionary history. It is unlikely that the vocal cords evolved for singing grand opera. It is at least as unlikely that the human rectum evolved for sexual function, but it is often used that way. Mankind seems to be very imaginative in its demands upon the human body. At present, widely available sexual manuals refer to all orifices as erotic areas, regardless of their other functions. It is unclear whether erotic contacts involving orifices other than the genitals are now more common, but certainly we are more aware of them. It may be that our threshold of awareness has changed. Roman, Greek and Chinese literature indicate that there are no new permutations and combinations of anatomical parts. Venereal transmission of rectal herpes was reported in the French literature more than 200 years ago, but there were few recent reports until 1976.[1] The ability to discuss sexual issues has increased, which is to our advantage in making timely diagnoses.

In metropolitan areas, with relative anonymity and the confrontation of varied cultures, there may be a greater incidence of sexually related gastrointestinal disease than in rural areas. Or it may be that because of anonymity sexual problems are presented as what they are rather than as something else. In California because sexual activity—including homosexuality—between consenting adults is not illegal, material may be brought to physicians' attention that would be reinterpreted and presented with other explanations under other judicial circumstances. In Helsinki, Finland, the reported incidence of homosexually related syphilis cases was 2 percent when there was a 2-to-15 year prison penalty for homosexuality.[2] After homosexual expression between consenting adults was legalized, up to 50 percent of patients with genital syphilis reported homosexual contacts. Patients clearly are not going to present material that could put them in legal jeopardy. One may hear about things in California that would not be heard in other areas where laws are different.

The gay bowel syndrome is a designation that has recently appeared in medical literature to describe multiple and recurrent bacterial, protozoal and viral infection from oral-anal exposure, or rectal trauma that may be associated with anal intercourse.[3,4] It is probably not a good term if it restricts our thinking regarding the sexual basis for intestinal disease to homosexuals. Oral, genital and anal erotic behavior is obviously found in heterosexuals, as well. In a prospective study of patients presenting for family planning counseling, for Papanicolaou smears and for a variety of gynecological problems, 526 consecutive women were interviewed regarding their previous experience with anal erotic behavior including anal intercourse. Of these women, 25 percent indicated that at some time they had used this as a means of sexual satisfaction and 8 percent regularly included such behavior, including anilingus, as a means of stimulation.[5] These heterosexual patients could also be subject to the same range of diseases that we generally think of as the gay bowel syndrome. Physicians with large numbers of homosexuals included in their practices have become sensitized to the likelihood of venereal transmission of multiple enteric organisms. Venereal transmission of enteric pathogens may occur much more frequently in heterosexual men and women than is recognized.

The recognition of the female rectum as a reservoir of asymptomatic gonorrhea was long obscured by the blind spot of physicians who refused to recognize that anal intercouse was occurring as a birth control measure, as an alternative to vaginal patulousness, during menstruation or for variation. Rectal gonorrhea was desexualized and considered secondary to lymphatic spread or use of infected douche handles or nozzles, or caused by anterior-posterior wiping after urination. Physicians arrived at some remarkable explanations rather than approach the obvious.[6] No one asked the right questions and no one got the right answers.

Homosexual men do have a high incidence of sexually related intestinal disease, perhaps because there is little societal pressure towards monogamy even where private homosexual behavior is legal. Their numbers of contacts may also be greater because of high mobility in jobs favored by persons without domestic attachment—the merchant marine, long distance trucking, airlines, traveling sales, entertainment or sports. In all large cities, and many small ones, there are public bath houses where naked, anonymous persons may engage in repeated sexual contacts, having statistically a much greater chance of exposure to disease. As numbers of contacts increase, particularly with those who also have had large numbers of contacts, chances of transmission of enteric or venereal disease approach certainty. In San Francisco the Department of Public Health has maintained diagnostic booths for venereal diseases in

public baths, some of which have capacities of 500 to 1,000 and where, despite lots of soap and water, there have been high rates of disease transmission. Dr. Wibbelsman will discuss this later.

Few women appear to frequent either homosexual or heterosexual bath houses, perhaps because sexual function is not so external or superficial for women as for men. At any rate, venereal and enteric diseases appear to occur very infrequently in homosexual women—the incidences are lower, in fact, than in heterosexual women or men, and much lower than in homosexual men. If nothing else, lesbianism does not seem to be bad for one's health.[7]

During sexual encounters, judgment is often curtailed and magical or omnipotent thinking occurs. Persons presume that they will not be the ones to contract venereal disease. As children we learn that fecal organisms can transmit disease but it often seems everyone forgot. Amebiasis,[8] shigellosis[9,10] giardiasis,[11,12] salmonellosis including typhoid,[13] and hepatitis[14] appear to be spread by venereal transmission. Many types of behavior seem reasonable during the height of passion or when a person is intoxicated but may seem foolish the next day. Patients may be reluctant to be candid about their own behavior, unless one broaches the subject when taking the history.

With recurrent attempts to limit vocational opportunities or abridge the civil rights of homosexuals—as with the recently defeated Briggs initiative in California—patients may become more hesitant to be candid for fear that their sexual orientation will be recorded. Their charts, after all, are legal documents which are subject to subpoena and, unfortunately, to casual reading by medical and clerical personnel. Often the lowest clerical positions in hospitals are in record rooms, and some of the least trained and least qualified people handle the charts. We must decide whether it is more to a patient's benefit to record sexual preference in our records to alert other health personnel to possible sexually related disorders, or to omit such information to guard against blackmail and possible job loss for the patient.

Dr. Dritz will review the experience in San Francisco with the venereal transmission of the enteric diseases—a subject that came strongly to my awareness when Dr. Al Hurwitz and I studied the cases of several patients who had multiple and recurrent intestinal parasites, including amoebae and Giardia.[12] We first thought we were seeing treatment failure or drug resistance when we continued to culture amoebae. Noticing that different amoebae were being cultured, we realized we were seeing reinfection rather than drug failure. These patients had no history of travel out of San Francisco and from earlier training one would not have strongly considered amebiasis in an initial differential diagnosis. These patients were not cleared of enteric parasites until careful sexual history indicated the apparent mode of reinfection. We pursuaded them, by explaining what was happening, to interrupt at least temporarily their usual mode of behavior which involved anilingus; and infections abated. In discussion with Dr. Dritz we learned that our observation reflected common epidemiologic patterns of enteric disease transmission in San Francisco.

Epidemiology of Venereally Transmitted Enteric Disease

DR. DRITZ:* In San Francisco the epidemiology of sexually transmitted enteric diseases seems to be related to both political and social changes in the city. In 1974 a change in political atmosphere in the city made it apparent that legal pressures on the homosexual community would be eased. This was accompanied by an increase in the population of homosexuals in two particular areas of the city. Within six months we noticed the beginning of a rapid rise in reported cases of amebiasis, shigellosis and viral hepatitis. Polling the physicians who made these reports, we learned that most of their cases were in men between the ages of 20 and 40, and that most of these men were residents, employees or habitues of the gay communities, or gave histories of frequent or varied sexual activity with male partners. In order to assure ourselves that this was not an artifact, we analyzed our data for the preceding ten years.[15] As background, let me describe the demography of the city.

San Francisco has a population of approximately 660,000. Of these, two thirds are white, of which a fourth are of Spanish ethnic origin. Of the remaining third, half are black, about a third are Chinese or Japanese, and the rest include East Indian, American Indian, Burmese, Indonesian, Samoan, Korean, Polynesian, Philippine and Arabic groups. Male and female populations are approximately equal in the age groups under 50 years, with a 25 percent preponderance of women

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over that age. We feel that whatever sexual skew may exist in our reports of disease incidence, it is not due to a large discrepancy of age or sex in the population distribution. Although perhaps only a third to a half of all reportable diseases are actually reported in San Francisco, we believe that this percentage is a constant factor, and does not appreciably affect our year-by-year study. Some of our morbidity data *are* statistically skewed due to an intense epidemiological effort by interested physicians whose practices include numerous patients who have adopted what are now called alternate life-styles. The cases of amebiasis, salmonellosis, shigellosis and hepatitis B shown in Tables 1, 2 and 3 are all laboratory confirmed, with the exception that before 1974, when the hepatitis-associated antigen (HAA) test became generally available, hepatitis B diagnoses were based on a history of probable parenteral contamination. Diagnoses of hepatitis A were accepted on the physicians' clinical impression, if tests were negative for hepatitis B antigen.

In 1967 and 1968 we had an influx of about 100,000 "flower children" into the Haight-Ashbury District, followed by an increase in cases of

TABLE 1.—*Reported Cases of Selected Diseases, San Francisco Department of Public Health*

Year	Amebiasis	Shigellosis	Hepatitis A	Hepatitis B	Hepatitis-Type Undetermined*
1964	8	76	150	25	...
1965	5	81	181	77	...
1966	13	17	204	84	...
1967† ...	24	69	552	203	...
1968† ...	21	48	819	388	...
1969	17	144	651	285	...
1970	23	85	723	182	...
1971	23	159	767	123	...
1972	8	254	542	86	...
1973	15	208	696	161	...
1974	10	189	480	144	...
1975‡ ...	78	346	647	241	22
1976‡ ...	101	602	912	334	63
1977‡ ...	103	325	690	351	115

*Defined mid-1974.
†Haight-Ashbury period.
‡Venereal transmission recognized.

TABLE 2.—*Case Incidence in San Francisco Per 100,000 Population By Age and Sex*

Age (Years)	Sex	Population* (1,000's)	Shigellosis 1969	Shigellosis 1975	Shigellosis 1976	Shigellosis 1977	Salmonellosis† 1977	Amebiasis 1969‡	Amebiasis 1975	Amebiasis 1976	Amebiasis 1977
<20 ...	M	88.4	43	31	50	26	25	..	2	2	3
...	F	89.8	56	22	30	12	19	..	0	0	3
20-29 ...	M	57.2	21	238	390	215	25	..	70	80	71
...	F	58.1	14	29	60	26	22	..	3	2	2
30-39 ...	M	44.1	20	188	361	197	7	..	48	93	70
...	F	41.1	70	29	29	29	10	..	2	0	5
40-49 ...	M	36.0	17	69	78	13	19	..	17	8	11
...	F	36.4	3	3	3	3	11	..	3	0	0
>50 ...	M	94.6	2	8	13	7	7	..	2	4	1
...	F	121.8	2	7	3	4	9	..	2	1	1
Number of Cases			144	346	602	325	113	17	78	101	103

*Estimated, July 1975.
†For comparison with shigellosis rates.
‡Age/sex distribution not available for 1969.

TABLE 3.—*Case Incidence in San Francisco Per 100,000 Population By Age and Sex*

Age (Years)	Sex	Population* (1,000's)	Hepatitis A 1969	Hepatitis A 1975	Hepatitis A 1976	Hepatitis A 1977	Hepatitis B 1969	Hepatitis B 1975	Hepatitis B 1976	Hepatitis B 1977	Hepatitis-Type† Undetermined 1977
<20 ...	M	88.4	88	18	32	40	58	10	9	9	3
...	F	89.8	96	16	17	20	30	1	10	8	3
20-29 ...	M	57.2	390	635	906	573	248	187	241	302	110
...	F	58.1	251	131	172	91	72	38	45	59	17
30-39 ...	M	44.1	150	259	481	283	23	98	107	186	54
...	F	41.1	31	49	58	63	10	12	7	12	2
40-49 ...	M	36.0	61	42	125	64	8	28	30	31	8
...	F	36.4	5	14	36	19	8	3	11	11	3
>50 ...	M	94.6	10	10	17	11	4	10	14	10	1
...	F	121.8	7	9	11	4	1	5	5	3	1
Number of Cases			651	647	912	690	285	241	334	351	115

*Estimated, July 1975.
†Age/sex rates not available prior to 1977.

TABLE 4.—*Antibiotic Resistance Patterns of Shigella flexneri Isolated From 37 Cultures From Patients at San Francisco General Hospital—1978*

Medication	*Percent Resistance*
Cephalothin	0
Gentamicin	0
Kanamycin	0
Polymyxin B and E	0
Tobramycin	0
Trimethoprim/sulfamethoxazole	0
Amikacin	3
Chloramphenicol	5
Carbenicillin	16
Ampicillin	22
Tetracycline	90

hepatitis A and B and some increase in cases of amebiasis (Table 1). Most of the patients with amebiasis gave a history of having been in Nepal or India, or in Mexico looking for peyote or marijuana. We know that some of the histories were not reliable, and a large number of the patients disappeared from medical follow-up. Hepatitis A probably increased due to the unsanitary, overcrowded, nonconformist characteristics of commune living in the Haight of that period. By patients' histories, most of the hepatitis B was probably needle-transmitted and a direct result of the use of street drugs. After 1968 societal pressures were applied, and the Haight-Ashbury culture dispersed. Many of the young people migrated to Southern California, and San Francisco retained chiefly a criminal hard-drug element. The amebiasis incidence remained slightly elevated at 10 to 20 cases per year—most of the patients giving a history of probable exposure to unsanitary conditions during travel in underdeveloped countries. Shigellosis incidence began a slow rise; I cannot explain why we did not note that in 1967 and 1968. Perhaps it was due to inadequate reporting, or perhaps most of the cases of diarrhea of minor character were treated successfully without resorting to laboratory diagnosis. Hepatitis A incidence remained high, although somewhat below the level it had reached in 1968; hepatitis B dropped slightly.

In mid-1974 the gay community began to expand rapidly from an estimated population of between 30,000 and 40,000 to what city officials now estimate as about 120,000; other estimates range down to 70,000. I use about 100,000 as a reasonable compromise figure. San Francisco has a total population of 660,000 persons with roughly 300,000 males; in this population are about 100,000 predominantly homosexual men and an unknown number of homosexual women. As the gay community expanded, the reported incidence of amebiasis jumped from 10 cases in 1974, to 101 in 1976 and 103 in 1977. Reports of cases of shigellosis increased almost geometrically, with a comparable increase in both types of hepatitis.

We began to publicize the outbreak to the gay community and to physicians in the city. At least partly because of heightened awareness of venereal transmission of enteric disease and specific treatment by physicians, we saw in 1977 a 30 percent to 40 percent drop in shigellosis and hepatitis A incidence. The incidence of hepatitis B has not dropped appreciably. We believe that much of the current hepatitis B incidence may be due to transmission of the virus during sexual contact. Saliva, semen, urine and blood have all been identified as carriers of the hepatitis B antigen,[16,17] and it would require only a very small break in oral, genital or anal mucosa for a virus-contaminated body fluid to become "parenterally injected" during sexual intercourse.

Tables 2 and 3 show the current preponderance of males with enteric infection despite the almost equal division in the population of men and women under 50 years of age. I used 1969 for a base year for data because it is between the 1967 Haight-Ashbury summer and the 1974 expansion of the gay community. In 1969 shigellosis incidence was relatively equal in both sexes. The male/female ratios of shigellosis incidence per 100,000 population changed enormously in 1975 and thereafter, with ratios of 238/29 for 1975, 390/60 for 1976 and 215/26 for 1977 in ages 20 through 29 (Table 2). This difference in rates is too great to be explained by a failure of physicians to diagnose cases in women. In contrast to shigellosis, the incidence of salmonellosis cases remained relatively equal in the sexes throughout these years. We had no outbreak of salmonellosis in the gay community. This may possibly be due to differences in infective dose. With salmonella, a dose of 10^4 to 10^6 organisms is needed to produce overt disease, while with shigella, 10 to 100 organisms are sufficient. As with shigellosis, there also was a great disparity in male/female ratios of amebiasis in the ages 20 through 39 (see Table 2). Hepatitis also shows a preponderance of males in the sexually most active age groups (Table 3). We identify perhaps one or two food handlers per month as carriers of these enteric pathogens and have not identified food establishments or water

supplies as sources of multiple-case outbreaks. In fact, two cases of food handlers in whom tests were positive for Salmonella typhosa appeared to have represented venereal transmission of infection.[13]

Therapy for shigellosis may be a problem, even though various antibiotics are available. In 37 cultures of Shigella flexneri from patients at San Francisco General Hospital, on whom antibiograms were done during the first half of 1978, the resistance patterns shown in Table 4 were found. Physicians in San Francisco report using ampicillin and trimethoprim/sulfamethoxazole most frequently when antibiotics are deemed necessary. For amebiasis, metronidazole seems to be the treatment of choice of clinics and physicians in the city, and diiodohydroxyquin is used for the occasional patients who cannot tolerate the enteric side effects of metronidazole. Physicians report finding some asymptomatic carriers of Entamoeba histolytica among named sexual contacts of their patients.

Hepatitis A and B are difficult problems for therapy, with general supportive measures the chief resource at this time. Immune serum globulin is of limited use for passive protection of contacts, its effectiveness circumscribed by time limitations and by the fact that while it may suppress symptoms of the disease, it does not appear to prevent viremia and infectivity of the contact. The new hepatitis B immune globulin (HBIG) is prohibitively expensive at present for a general preventive passive immunization program and seems to delay rather than abort infection. We need an effective and readily available, inexpensive active vaccine for both types of the hepatitis virus.

DR. OWEN: Patients with venereal exposure to a variety of partners can present with multiple enteric pathogens simultaneously or sequentially.[18] When oral-anal venereal transmission of amebiasis or shigellosis is identified, it is prudent to look for giardiasis and hepatitis as well. Conversely, in patients without a history of recent travel or immunodeficiency, diagnosis of multiple enteric pathogens suggests venereal transmission.[19] In such patients intestinal symptoms may represent the summation of the effects of different organisms. Consequently one or more parasites may be found in follow-up stool examinations after elimination of symptoms following treatment.[12] Endolimax nana, an ameba not usually considered pathogenic, has been associated with symptoms responding to administration of metronidazole.[20] Infection with such nonpathogens may result in symptoms when rectal trauma, which I will discuss below, permits noninvasive amebae to enter the mucosa. Granulomatous response to cutaneous amebae may resemble anogenital condylomata[21] or even carcinoma.[22] Trophozoites should be looked for in biopsy specimens before radical surgical excision.

Gastrointestinal Presentations of Venereal Disease

DR. WIBBELSMAN:* Dr. Dritz presented an overview of enteric disease trends in San Francisco and conflicting estimates of the gay population which range between 100,000 and 200,000 in a city of almost 700,000 population. There are 72,000 patient visits a year to the San Francisco Department of Public Health's City (venereal disease) Clinic which is open five days a week, eight hours a day. My impression is that 60 percent to 80 percent of these patients are gay men. One should be aware of the following facts: San Francisco leads the United States in reported cases of primary and secondary syphilis in cities of 200,000 and more population with a rate of 123.9 per 100,000 population (1977). San Francisco was fourth in gonorrhea incidence in 1977 with 2,352.1 cases of gonorrhea per 100,000 population, surpassed by Atlanta, Baltimore and Washington, D.C. Most of the reported syphilis and gonorrhea diagnoses in San Francisco are made in our facility.

Gonorrhea

In 1973 the City Clinic reported 2,492 cases of gonococcal proctitis in males which doubled by 1976 to 4,932, reflecting both an enlarging gay population and increased disease transmission. In 1977 at the City Clinic 14,013 cases of gonorrhea were diagnosed, of these 4,655 were proctitis and 334 pharyngitis. Gonococcal infections of both the pharynx[6,23] and rectum[6,24] are often asymptomatic but the pharynx appears to be a much less significant reservoir for transmission than the rectum.

What makes venereal disease an epidemic in San Francisco? There are three main factors: anonymity, increased opportunities for sexual activity and asymptomaticity. The high rate of gono-

*Charles J. Wibbelsman, MD, Chief, Division of Venereal Disease Control, San Francisco Department of Public Health (at the time of this conference).

coccal proctitis and the percentage of infected persons being asymptomatic (as high as 80 percent) indeed are significant contributing factors. Dr. Owen alluded to Department of Public Health screening for venereal disease in bath houses. We also go out to the street corners with our mobile van. At one site in San Francisco in an hour 50 asymptomatic men volunteered for a checkup. In ten of these men rectal cultures were positive for gonorrhea. When one considers that 20 percent of this sample had rectal gonorrhea and did not know it, we get some insight as to why San Francisco has such a high rate of gonorrhea.

Those that do have symptoms with rectal gonorrhea give a fairly consistent history, even though their signs and symptoms are nonspecific.[24] Persons with rectal gonorrhea often notice strands of white mucus on their stool, and may complain of one or all of the following symptoms: flatus, constipation and rectal itching. Although any condition that causes chronic moisture in the rectal area can cause itching, my clinical impression is that the discharge associated with a rectal infection may be particularly capable of causing pruritus. We do not treat all patients who come into the clinic with only nonspecific rectal complaints, but if a gay man who is quite active sexually, especially one who has had rectal gonorrhea in the past and has no history of chronic colitis, comes in and states "I have mucus in my stool," he probably has rectal gonorrhea. Such patients may say that they have been in a bath house and do not know their contacts. They do not know if the person they have had sex with may have been diagnosed with gonococcal urethritis subsequently so that they could have been infected, but they do know that they have mucus in their stool. In such situations we take cultures for gonorrhea and treat for gonoccoccal proctitis on epidemiologic grounds. In at least half of such patients the diagnosis of gonorrhea is confirmed.

Every man in whom the diagnosis of gonococcal urethritis is made in the City Clinic is interviewed by an epidemiologist; these are the only persons with gonorrhea whom we interview because their infected contacts will often be asymptomatic and not aware of the need for treatment. Of those persons named as rectal contacts to gonococcal urethritis in 1977, rectal cultures were positive in 46 percent. That is quite significant. In contrast, in those persons with *only* pharyngeal contact to gonococcal urethritis, pharyngeal cultures were positive in less than 9 percent of cases. Major reasons for the epidemic of gonorrhea are the susceptibility of the rectal mucosa to an infected penis and the asymptomaticity of rectal gonorrhea.[6] Contacts of rectal carriers are not traced because of economic limitations and because their symptoms of urethritis will lead them to treatment.

Syphilis

When we consider primary syphilis, some of the same epidemiologic factors prevail. In 1977 there were 364 primary and 370 secondary cases of syphilis diagnosed in the City Clinic. Why did we see nearly 400 cases of secondary syphilis? Were these people unaware that they had a primary lesion? If it was rectal they may well not have known. Symptoms of a primary rectal chancre may be quite variable and are totally nonspecific.[25,26] Many patients either take no notice of enlargement of inguinal nodes or may not necessarily relate it to syphilis or other infectious processes, such as herpes, that can also cause inguinal adenopathy.[11] Therefore, in syphilis—much as in gonorrhea—one of the reasons that we may have not diagnosed or seen many of these primary lesions is because of asymptomaticity of rectal lesions.

The patient load at the City Clinic is quite heavy: as many as 425 people in one day. We do not have the time to use an anoscope or a proctoscope in every case in which there is a suspicion of venereal disease. Instead we are restricted to a limited physicial examination including visualization of the perianal area, and diagnosis, treatment and epidemiology of syphilis and gonorrhea. Many of the primary lesions of syphilis that we see are perianal, although undoubtedly there are a significant number of primary lesions inside the rectum that we do not diagnose because they cannot be seen in a perianal examination. If we had the time, staff and budget, we would increase the number of primary diagnoses by using an anoscope in every patient exposed to a man having syphilis, especially those patients who have inguinal adenopathy without a visible external lesion. Most of our primary diagnoses are made by positive findings on darkfield examination, which is a critical evaluation in early syphilis. Occasionally, in a person with an early primary lesion that is darkfield positive, a Venereal Disease Research Laboratory (VDRL) test may be nonreactive and a fluorescent treponemal antibody absorption test (FTA-ABS) negative. The only diagnostic laboratory tool is a positive darkfield examination. This

emphasizes the inadequacy of a single VDRL test for a patient recently exposed to syphilis. One must see the patient at periodic intervals from the date of contact for up to three months which corresponds to the maximum 90-day incubation to detect seroconversion. Our policy in the City Clinic is to offer epidemiologic (prophylactic) treatment to all persons exposed to syphilis in the previous 90 days as opposed to following these cases serologically, waiting for syphilis to develop and then looking for contacts.

Treatment of Gonorrhea and Syphilis

The Center for Disease Control's recommendations for the treatment of syphilis are followed at the City Clinic.[27] Primary and secondary syphilis are treated with 2,400,000 units of benzathine penicillin G given by intramuscular injection. In early latent cases, patients receive the same treatment each week for two weeks; in late latent cases, for three weeks, and in cases of neurosyphilis, for four weeks. Patients allergic to penicillin are given tetracycline or erythromycin, 750 mg by mouth every six hours for ten days to a total of 30 grams. For patients with late latent or neurosyphilis treatment time is doubled for a total dose of 60 grams.

In treatment of rectal and pharyngeal gonorrhea, our first choice is aqueous procaine penicillin G (APPG), 4.8 million units given intramuscularly, and a gram of probenecid (Benemid) by mouth.[28] Administration of APPG, unlike other modes of treatment, is acceptable treatment for gonorrhea of all sites of infection: pharyngeal, cervical, urethral or rectal. Although ampicillin has been advocated for treatment of pharyngeal gonorrhea,[29] we have had a better cure rate for rectal and pharyngeal gonorrhea using APPG, and have seen several ampicillin failures in the treatment of rectal gonorrhea. Some physicians in San Francisco do not use APPG to treat gonorrhea; their reasons and justification for using orally given antibiotics are the risks associated with APPG. Patients indeed can have serious allergic reactions; also, procaine reactions can be quite disturbing because of unexpected symptoms such as hallucinations. The most severe procaine reaction I have seen was a grand mal seizure. Perhaps these risks of an acute reaction to penicillin or procaine are the reasons physicians in those treatment settings without resuscitation equipment available or without adequately trained staff may hesitate to use APPG. We have observed that some physicians whose practice is heavily weighted with homosexual males will use ampicillin at higher doses, such as 4.5 grams to treat rectal gonorrhea, claiming that this is effective. Even if gonorrhea is eliminated, this regimen lacks a major patient advantage of aqueous penicillin G, that is, its documented abortive effect on incubating syphilis.

Last year nearly 1,450 cases of infectious syphilis were diagnosed in the City Clinic, 95 percent in men naming other men as contacts. However, I have noticed at our clinic that in those homosexual patients with a high recidivism rate for gonorrhea and frequent treatment with APPG, syphilis is not found to be present. If a patient has gonorrhea and is treated with APPG, one can be assured of aborting incubating syphilis. That is why we consider APPG the drug of choice for treating gonorrhea in nonallergic male patients. A small number of patients in whom gonorrhea is diagnosed and in whom results of a VDRL test are negative, have a pronounced reaction consistent with a Herxheimer reaction after treatment with APPG. If this is genuine, it would be diagnostic of syphilis. Now that we are forced by budget limitations to use ampicillin to treat all men with gonococcal urethritis, we may learn whether ampicillin has any effect on incubating syphilis.

Although tetracycline can provide adequate therapy for gonorrhea, one must recognize that patient compliance is of the utmost importance for successful outcome. If one dispenses to a patient a package of 4½-days dosage of tetracycline pills to treat gonorrhea, there is always the risk he will lose the pills, share the pills with lovers or forget to take them. However, assuming excellent patient compliance, tetracycline does work quite effectively in pharyngeal, urethral, cervical and rectal gonorrhea. In some women treated for cervical gonorrhea with tetracycline, yeast infection may develop.

Spectinomycin has the advantage of single intramuscular dose therapy for gonorrhea, but it is expensive and has no effect on syphilis because it is not spirocheticidal. Administration of 2 grams of spectinomycin does work well for rectal, urethral and cervical but not pharyngeal gonorrhea. Approximately 200 cases of the penicillinase producing Neisseria gonorrhea (PPNG strain) now have been reported in the United States, including 15 in San Francisco. We successfully treated a pharyngeal contact to a PPNG strain with 4 grams of spectinomycin as per the Center for Disease

Control's recommendation. Otherwise, spectinomycin is not recommended to treat pharyngeal gonorrhea—and, to reiterate, it has no effect on incubating syphilis.

An important consideration when one is treating someone for gonococcal proctitis, cervicitis or pharyngitis, is to obtain a follow-up culture for test of cure. In all cases of treatment failure to APPG, when there has been no reexposure, a regimen of tetracycline is used. If the second test of cure is positive without reexposure, therapy with erythromycin may be used although our experience with this drug as the second choice for a penicillin treatment failure after tetracycline has not been impressive. Spectinomycin probably should be the next course of therapy after penicillin and tetracycline treatment failures. I have yet to see a failure of spectinomycin to cure rectal gonorrhea. Usually we use 2 grams, occasionally we may have to use 4 grams if the patient is very uncomfortable, suggesting massive infection.

DR. OWEN: There are a couple of additional points I want to make about the venereal diseases. One may ask what will be seen upon proctoscopy in gonorrhea. As one may guess from the number of asymptomatic patients,[6] the commonest appearance is normal mucosa.[24] Without a culture, one cannot make the diagnosis. When there are symptoms with either pharyngeal or rectal gonorrhea, they seem to represent host factors or coinfection with another organism, since Neisseria gonorrhea alone is not sufficient for either symptoms or signs. Mechanically traumatizing the anal mucosa may allow bacteria to enter.

When proctoscopy shows abnormalities, erythema and surface mucus extend up into the rectum only about 8 cm and stop abruptly. This sharp delimitation of mucosal abnormality is consistent with but not diagnostic of gonorrhea. Unfortunately there is no more specific presentation. Rectal cultures are most effective when obtained through a proctoscope, but the diagnosis of rectal gonorrhea can be made with blind swabs 96 percent of the time.[30] Enter the anal canal with the swab about an inch, move it side to side and remove. If the swab is grossly contaminated with feces, discard and repeat. The problem with culturing gonorrhea is usually not how one obtains the specimen, but whether one keeps it warm on its way to being cultured and whether it is planted onto appropriate media, such as Thayer-Martin medium which suppresses most bacteria other than Neisseria. With symptomatic pharyngitis, one will not be able to diagnose gonorrhea with the routine throat culture which is selective for beta Streptococcus.

With syphilis one may see a chancre within the anal canal or rectum, and it may even resemble carcinoma.[31] There have been patients in whom anal resection was done, or nearly done, for a superinfected chancre with an inflammatory reaction around it. Unlike penile chancres, rectal chancres can be painful.[26] Because signs and symptoms are nonspecific, darkfield examination, biopsy with stains for spirochetes, or repeated serologies are necessary to confirm a diagnosis.

Anorectal Herpes Infection

The next topic is the rectal presentation of herpes. There are two types of herpes simplex, I and II. We usually think of type I as occurring above the belt and type II below the belt, but the territories are not exclusive. Particularly in younger patients, there may be type I genital or rectal lesions in a third of cases, probably relating to initial orogenital exposure. Waugh reported from England a series of cases involving anal lesions.[1] More relevant to our immediate experience, Dr. Elias Jacobs has reported a large number of cases observed in San Francisco.[32] Typically rectal herpes presents with pruritus and then intense pain, which may radiate to the groin, the buttocks and the upper thighs. The extreme level of pain may reflect direct assault on nerves by the virus. The patient may become constipated because of pain upon defecation and may have a rectal or anal serous discharge. On examination, one may see lesions on the anus or spreading onto the natal cleft. If seen early, there will be a clear vesicle with an erythematous base. Later an aphthous ulcer appears, looking similar to an oral canker sore, and associated with bilateral inguinal lymphadenopathy. The diagnosis is confirmed by inclusion bodies in cells smeared from the lesion, by viral culture or by acute and convalescent serology for herpes. There is always a problem differentiating between an herpetic ulcer and a syphilitic ulcer, and VDRL determinations must be followed in all such cases.

The clinical course may vary, but presentation is most severe on the initial episode and the recurrences are usually milder. The duration is given as approximately 11 days in both published series.[1,32] Treatment with steroids is contraindicated because of the possibility of disseminating

the process. Sitz baths may help, but if maceration occurs they must be discontinued. If one can make the diagnosis, at least the patient can be assured that the lesions will be self-limited. Phototherapy with a light bulb or exposure to the sun is obviously more difficult to maintain than with lip or gingival lesions and has not been particularly successful.

Anorectal Trauma

In addition to the infections from orogenital, oroanal or proctogenital sexual contact, trauma to the rectum or oropharynx may occur. Kazal and Sohn report a high incidence of hemorrhoids, nonspecific proctitis, anal fissures and fistulae in a homosexual population engaging in anal intercourse.[3,4] However, their findings may be skewed by self-selection since all these patients presented to a proctology clinic. The survey of gynecologic patients by Bolling is probably more representative of the range of trauma from anal intercourse alone.[5] In these women who presented for other than rectal complaints, Bolling found no evidence of sphincter damage or dysfunction. In addition, sphincter relaxation after insertion of the examining finger, which had been reported as a sign of prior anal intercourse, did not correlate at all with sexual histories. Instead, he found that reflex relaxation in the anal sphincter after insertion of the finger was associated with the degree of relaxation and confidence of the patient. The lack of trauma reported by Bolling may reflect greater consideration shown by persons in continuing relationships manifested by gradual dilatation of the smooth muscle sphincter, gentleness and lubrication. I might indicate that all three are equally important in proctoscopy.

Lubricants may also cause problems. Part of the proctitis reported in rectal gonorrhea may reflect the use of soaps, shampoos and other mucosal irritants which may have been used as available lubricants. Such contact proctitis is recognized by a sharp delimitation shortly above the anus.

Foreign Objects in the Rectum

A related problem is the insertion of foreign objects into the rectum. In manual stimulation of the anus, a patient or a partner may insert a variety of objects. Surprisingly with no anesthesia other than alcohol or street drugs, the hand and indeed the forearm up to the elbow may be inserted into the rectum, which one may bear in mind when patients complain about the insertion of one finger. Occasionally such patients will present with rectal laceration. More commonly we see patients with foreign objects which they are unable to retrieve from the rectum.[33] The range of these objects is exceeded only by the imaginative explanation of how they got there. Objects such as vibrators are presumably inserted for autoeroticism, but conceivably other objects may be inserted to relieve pruritus, to reduce prolapsed hemorrhoids or by accident.

In Boston when I was a student, a disheveled patient presented with a mustard bottle in his anus; he said that he was moving his bowels at the city dump, stumbled and fell backwards on the bottle. If so, he was lucky it did not break. A patient presented at the San Francisco Veterans Administration Medical Center with a number 8 billiard ball impacted in his rectum, and he sagely offered no explanation. Our problem is to remove such objects; it is the problem of the patient how they get there. A variety of procedures have been reported for removal of such objects.[33] The presence of the object is evidence of the distensibility of the sphincter, but anxiety or sphincter spasm in a sober patient may complicate the removal. Topical anesthesia may be sufficient to provide relaxation so that one can extract the object. During sigmoidoscopy, some objects can be grasped with biopsy forceps, drawn to the scope and removed with the scope. Bottles, however, may form suction when the mouth is upwards. One way to combat this is to pass Foley catheters past the object to allow the passage of air and relieve the suction. One may then pull down on the catheters after inflation and pull the object down with them; if nothing else, get the catheters back.

Obstetrical forceps or spoons may be of assistance but usually require caudal anesthesia before they are effective because the patients have often tried heroically to remove the objects before they present to a physician and may have lacerations, fissures, and some additional pain and spasm. It has been suggested in the past that a physician could introduce plaster of paris into bottles when the openings are caudal, and allow it to solidify around forceps before withdrawing the object. Unfortunately the heat of reaction of the plaster of paris may break the glass, and it is a time-consuming procedure. In many instances with large objects, it is probably better to refer the patient to surgery for removal of the objects

under anesthesia through the dilated anus. Laparotomy is rarely indicated.

The severest rectal trauma may be iatrogenic. In treating rectal carcinoma or intractable inflammatory bowel disease, amebiasis or rectal syphilis, which may have a similar appearance, must be excluded before resection. An ileostomy or colostomy may have a pronounced effect on the sexual life of patients who will need much reassurance. Many will, however, be able to function adequately sexually following such operations.[34]

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